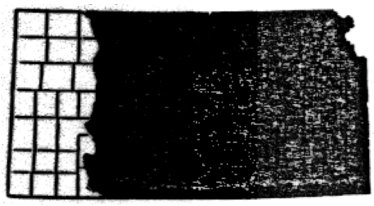
SANDY LOWLAND

KANSAS RANGE SITE DESCRIPTION

1. Location of Site:



Land Resource Areas 72 and 77
Central High Table Land and
Southern High Plains

2. Climate:

See climate for LRA's 72 and 77
(Filed in the front of Section II-E)

3. Topography:

This site occurs on nearly level to gently sloping valley lands adjacent to the rivers, creeks, and smaller streams.

4 Soils and Hydrological Characteristics:

a. This site consists of deep, well drained to excessively well drained soils formed in stratified moderately coarse alluvium on bottomlands. The surface layers are sandy or loamy. The water table may enter the root zone but is not the dominant factor controlling vegetative growth.

b. The major soils that characterize this site are Glenberg and Lincoln.

c Erosion of rangelands by wind and water is a hazard if the vegetation is severely overgrazed or mismanaged. Flooding is a hazard on this site. Severe flooding occurs rarely but can cause scour damage and deposits of silt and/or sand.

5. Climax Vegetation:

a. The natural potential vegetation of this site is a mixed grass prairie. Sand bluestem, sand lovegrass, little bluestem, indiangrass, and switchgrass are the dominant forage producers in this condition. Combined they will make up about 80 percent of the total annual yield.

Although trees are not native to this site, plains cottonwood and sandbar willow have invaded the site as man has suppressed fires. The trees are now well established and appear to be a part of the potential vegetation of this site.

In its development, the vegetation on this site was influenced by grazing and wildfires. The grazing was predominantly by large transient herds of bison and lesser numbers of antelope, elk, and deer.

As European families settled this area, cattle replaced the wildlife and fires were suppressed. Trees were planted. This site then became a favored livestock wintering area due to protection provided by the trees.

b. Guidelines for Determining Range Condition:

(Percentage of tota production by weight)

Grasses and Grasslike - 85 Percent			Forbs - 10 Percent		Trees, Shrubs, and Cacti - 5 Percent	
	20	little bluestem		catclaw sensitivebriar		chickasaw plum
55	35	sand bluestem		engelmanndaisy		plains cottonwood
	10	sideoats grama		heath aster	5	sandbar willow
	15	switchgrass	5	Illinois bundleflower		sand sagebrush
				lemon scurfpea		yucca
		big or prairie sandreed		maximilian sunflower		
10		Canada wildrye		silktop dalea		
		indiangrass		slimflower scurfpea		
		sand lovegrass				
				Louisiana sagewort		
		needleandthread	5	prairie sunflower		
10		vinemesquite		Texas croton		
		western wheatgrass		western ragweed		
		blue grama				
5		sand dropseed				
		tall dropseed				
		perennial threeawn				
5		sand paspalum				
		scribiners panicum				
		sedges				

c. Invaders common to this site are cocklebur, common sunflower, Japanese brome, kochia, russianthistle, sandbur, tumblegrass, and windmillgrass.

6. Management Implications:

This site occurs on nearly level bottomland adjacent to streams. It is seldom found in extensive areas but rather in isolated pockets Management of this range site by itself is difficult.

Initial overgrazing of this site will reduce the production of the bluestems while western wheatgrass will increase. To a small extent some buffalograss will also increase.

After the vegetation is reduced to western wheatgrass and overgrazing continues, kochia, russianthistle, and other undesirable annuals will invade the area.

Once most of the taller species are eliminated from the site through grazing pressure and dry weather, regaining the potential vegetation through management is extremely slow and may take several decades. Where remnants of the taller species remain, grazing management that includes proper stocking and scheduled rest during the growing season is quite effective in returning the site to near its potential.

7. Wildlife Considerations:

When maintained in good to excellent condition, this site provides excellent habitat for many species of wildlife. The variety of grasses, forbs, and woody vegetation found on this site provides the basic ingredients for a large food chain in and around the site. This combination of vegetation provides cover for deer, coyotes, raccoons, opossums, and other mammal species. Maintaining the diversity and productivity of this site is essential to sustained populations of wildlife species.

8. Other Uses and Values:

Other uses of this site are very limited because of flooding and the instability of the sandy soils.

9. Herbage Production Guidelines:

The following guidelines are based on available clipping data when this site is in excellent condition. Vigor of principal forage species, time of burning, if fire is used, as well as growing conditions, influence annual herbage production.

Growing Conditions	Total Air Dry Herbage Pounds/Acre	Kilograms/Hectare
Favorable	3,000-3,500	3,360-3,920
Normal	2,000-3,000	2,240-3,360
Unfavorable	1,500-2,000	1,680-2,240

10. Guide to Initial Stocking Rates:

Range Condition	Percent Climax Vegetation	Acres/AU Yearlong	AU Months Per Acre	Hectares/AU Yearlong	AUM's per Hectare
Excellent	76-100	14-16	.8	5-6	2.0
Good	51-75	16-18	.7	6-7	1.7
Fair	26-50	18-25	.6	7-10	1.5
Poor	0-25	25+	.4	10+	1.0

These guidelines are considered safe initial stocking rates from which a sound management program can be built. Grazing only during the dormant season or use of a specialized grazing program will usually allow a substantial increase in the stocking rates shown.

This site is not normally used for hay production.

11. Relative Preference of Plant Species:

Preferences of plant species by classes of livestock and uses by wildlife will vary from year to year and season to season. The table below is what might be expected under average climatic conditions and good management.

Forage Preferences

H = High
M = Medium
L = Low

Wildlife Preferred Uses

C = Cover
F = Food
N = Nesting

Plant Species	Cattle	Animal Species: Deer	P. Chicken	S. Quail
big sandreed	M	C	C	C
blue grama	M	---	---	---
catclaw sensitivebriar	H	F	F	F
chickasaw plum	L	C,F	C,F	C,F
engelmanndaisy	H	F	F	F
heath aster	H	F	---	---
Illinois bundleflower	H	F	F	F
little bluestem	H	C	C,N	C,N
maximilian sunflower	H	C,F	C,F	C,F
sand bluestem	H	C	C,N	C,N
sand dropseed	M	---	---	---
sand lovegrass	H	---	C,N	C,N
sand sagebrush	L	C,F	C,F,N	C,F,N
sideoats grama	H	---	C,N	C,N
switchgrass	H 1/	C	C,F,N	C,F,N
Texas croton	L	---	F	F
western ragweed	M	F	F	F
western wheatgrass	H	F	C,N	C,N

1/ Preferred during first half of growing season.

Reference:

Anderson, Kling L. and Clenton E. Owensby. 1969 Common Names of a Selected List of Plants. Kansas State University Tech. Bul. 117.

SANDY LOWLAND

KANSAS RANGE SITE DESCRIPTION

1. Location of Site:

   Land Resource Area 73
   Rolling Plains and Breaks

2. Climate:

   See climate for LRA 73
   (Filed in the front of Section II-E)

3. Topography:

   This site occurs on nearly level to gently sloping valley lands adjacent to the rivers, creeks, and small streams.

4. Soils and Hydrological Characteristics:

   a. This site consists of moderately deep to deep, well drained to excessively well drained soils formed in stratified moderately coarse alluvium on bottomlands. The surface layers are sandy or loamy fine sand. The water table may enter the root zone but is not the dominant factor controlling vegetative growth.

   b. The major soils that characterize this site are Inavale and Munjor.

   c. Erosion of rangelands by wind and water is a hazard if the vegetation is severely overgrazed or mismanaged. Flooding is a hazard on this site. Severe flooding occasionally causes scour damage and deposits silt and/or sand.

5. Climax Vegetation:

   a. The natural potential vegetation of this site is tall grass prairie. Sand bluestem, little bluestem, indiangrass, and switchgrass are the dominant forage producers in this condition. Combined they will make up about 65 percent of the total annual yield.

      Although trees are not native to this site, cottonwood and willow have invaded the site as man has suppressed fires. Now that they are well established they appear to be a naturalized part of the potential for this site.

      In its development, the vegetation on this site was influenced by grazing and wildfires. The grazing was predominantly by large transient herds of bison and lesser numbers of antelope, elk, and deer.

As European families settled this area, cattle replaced the wildlife and fires were suppressed. Trees were planted. This site then became a favored livestock wintering area due to protection provided by the trees.

b. Guidelines for Determining Range Condition:

(Percentage of total production by weight

Grasses and Grasslike - 85 Percent		Forbs - 10 Percent		Trees, Shrubs and Cacti - 5 Percent
	15 indiangrass		catclaw sensitivebriar	chickasaw plum
65	20 little bluestem		engelmanndaisy	cottonwood
	45 sand bluestem		heath aster	5 sandbar willow
	15 switchgrass	5	Illinois bundleflower	sand sagebrush
			lemon scurfpea	yucca
	big or prairie sandreed		maximilian sunflower	
15	Canada wildrye		silktop dalea	
	sand lovegrass		slimflower scurfpea	
	sideoats grama			
	western wheatgrass		Louisiana sagewort	
		5	prairie sunflower	
	blue grama		Texas croton	
	perennial threeawn		western ragweed	
	sand dropseed			
5	sand paspalum			
	scribners panicum			
	sedges			
	tall dropseed			

c. Invaders common to this site are cocklebur, common sunflower, Japanese brome, kochia, russianthistle, sandbur, tumblegrass, and windmillgrass.

6. Management Implications:

This site appears on nearly level bottomland adjacent to streams in the area. It is seldom found as extensive areas but rather occurs as isolated pockets. Management of this range site by itself is difficult.

Initial overgrazing of this site will reduce the production of the bluestems, while western wheatgrass will increase. To a small extent, some threeawns and dropseeds will also increase.

After the vegetation is reduced to western wheatgrass and overgrazing continues, kochia, russianthistle, and other undesirable annuals will invade the area.

Once most of the taller species are eliminated from the site through grazing pressure and dry weather cycles, regaining the potential vegetation through management is slow. Where remnants of the taller species remain, grazing management that includes proper stocking and scheduled rest during the growing season is quite effective in returning the site to near its potential.

7 Wildlife Considerations:

When maintained in good to excellent condition, this site provides excellent habitat for many species of wildlife. The variety of grasses, forbs, and woody vegetation found on this site provides the basic ingredients for a large food chain in and around the site. This combination of vegetation provides cover for deer, coyotes, raccoons, opossums, and other mammal species. Maintaining the diversity and productivity of this site is essential to a sustained population of wildlife species.

8. Other Uses and Values:

Other uses of this site are very limited because of flooding and the instability of the sandy soils.

9. Herbage Production Guidelines:

The following guidelines are based on available clipping data when this site is in excellent condition. Vigor of principal forage species, time of burning, if fire is used, as well as growing conditions, influence annual herbage production.

	Total Air Dry Herbage	
Growing Conditions	Pounds/Acre	Kilograms/Hectare
Favorable	4,000-4,500	4,480-5,040
Normal	3,500-4,000	3,920-4,480
Unfavorable	3,000-3,500	3,360-3,920

10. Guide to Initial Stocking Rates:

Range Condition	Percent Climax Vegetation	Acres/AU Yearlong	AU Months Per Acre	Hectares/AU Yearlong	AUM's per Hectare
Excellent	76-100	12-14	.9	5-6	2.2
Good	51-75	14-18	.8	6-7	2.0
Fair	26-50	18-30	.6	7-12	1.5
Poor	0-25	30+	.3	12+	.75

These guidelines are considered safe initial stocking rates from which a sound management program can be built. Grazing only during the dormant season or use of a specialized grazing program will usually allow a substantial increase in the stocking rates shown.

This site is not normally used for hay production.

11. Relative Preference of Plant Species:

Preferences of plant species by classes of livestock and uses by wildlife will vary from year to year and season to season. The table below is what might be expected under average climatic conditions and good management.

Forage Preferences

H = High
M = Medium
L = Low

Wildlife Preferred Uses

C = Cover
F = Food
N = Nesting

Plant Species	Cattle	Animal Species: Deer	Pheasant	Quail
big sandreed	M	--	C	C
catclaw sensitivebriar	H	F	F	F
chickasaw plum	L	C,F	C,F	C,F
engelmanndaisy	H	F	F	F
heath aster	H	F	--	
Illinois bundleflower	H	F	F	F
little bluestem	H	C	C,N	C,N
maximilian sunflower	H	C,F	C,F	C,F
sand bluestem	H	C	C,N	C,N
sand dropseed	M	--	--	--
sand lovegrass	H	--	C,N	C,N
sand sagebrush	L	C,F	C,F,N	C,F,N
sideoats grama	H	--	C,N	C,N
switchgrass	H 1/	C	C,F,N	C,F,N
Texas croton	L	--	F	F
western ragweed	M	F	F	F
western wheatgrass	H	F	C,N	C,N

1/ Preferred during first half of growing season.

Reference:

Anderson, Kling L. and Clenton E. Owensby. 1969 Common Names of a Selected List of Plants. Kansas State University Tech. Bul. 117.

SANDY LOWLAND

KANSAS RANGE SITE DESCRIPTION

1. Location of Site:

Land Resource Areas 74, 75, and 80A
Central Kansas Sandstone Hills,
Central Loess Plains, and
Central Rolling Red Prairies

2. Climate:

See climate for LRA's 74, 75, and 80A
(Filed in the front of Section II-E)

3. Topography:

This site occurs on nearly level to gently rolling valley lands adjacent to the rivers, creeks, and smaller streams that are subject to occasional flooding.

4. Soils and Hydrological Characteristics:

a. This site consists of moderately deep to deep, well drained to excessively drained soils with moderately rapid to very rapid permeability formed in stratified moderately coarse alluvium on bottomlands. The surface layers are loamy or sandy. The water table may enter the root zone but is not the dominant factor controlling vegetative growth.

b. The major soils that characterize this site are:

Carr, fine sandy loam	Sarpy, loamy sand
Lincoln soils	Sarpy, sand
Sarpy, loamy fine sand	Zavala, fine sandy oam

c. Erosion of rangelands by wind is a hazard if the vegetation is severely overgrazed or mismanaged. Flooding is a hazard on this site. Severe flooding causes scour damage and deposits of silt and/or sand.

5. Climax Vegetation:

a. The natural potential vegetation of this site is tall grass prairie. Sand bluestem, little bluestem, indiangrass, eastern gamagrass, and switchgrass are the dominant forage producers. Together they will make up about 70 to 75 percent of the total annual yield.

Although trees are not native to this site, cottonwood and willows invaded the site as man controlled wildfires. Now that they are well established they appear to be a part of the potential of this site.

In its development, the vegetation on this site was influenced by grazing and wildfires. Grazing was predominantly by large transient herds of bison and lesser numbers of antelope, elk, and deer.

As European families settled this area, cattle replaced the wildlife, fires were controlled, and trees were planted. This site rapidly became a favored livestock wintering area due to protection provided by the trees that prospered.

b. Guidelines for Determining Range Condition:

(Percentage of total production by weight)

Grasses and Grasslike - 85 Percent		Forbs - 10 Percent		Trees, Shrubs, and Cacti - 5 Percent	
75	10 eastern gamagrass 15 indiangrass 20 little bluestem 5 porcupinegrass 35 sand bluestem 15 switchgrass	5	catclaw sensitivebriar cup rosinweed heath aster Illinois bundleflower maximilian sunflower wholeleaf rosinweed	5	American elm American plum boxelder chickasaw plum chokecherry cottonwood green ash hackberry honeylocust mulberry small soapweed willow spp.
10	big or prairie sandreed Canada wildrye rosette panicums sand lovegrass sedges sideoats grama Virginia wildrye western wheatgrass	5	baldwin ironweed Louisiana sagewort prairie sunflower tall nettle Texas croton western ragweed woolly verbena		
T	blue grama purpletop sand dropseed sand paspalum tall dropseed				

c. Invaders common to this site are cocklebur, common ragweed, common sunflower, giant ragweed, Japanese brome, russianthistle, sandbur, tumblegrass, and windmillgrass.

6. Management Implications:

This site occurs on nearly level bottomland adjacent to streams. It is seldom found in extensive areas but rather in isolated pockets or in long stretches along major streams.

Initial overgrazing of this site will reduce the production of sand bluestem, indiangrass, switchgrass, and eastern gamagrass while western wheatgrass will increase. To a small extent some threeawns, sand paspalum, and dropseeds will also increase. In areas where there is some alkali or salinity, species such as inland saltgrass or alkali sacaton may invade the site.

After the taller species are eliminated or severely reduced and overgrazing continues, kochia, russianthistle, and other undesirable annuals will invade the area.

Once most of the taller species are eliminated from the site through grazing pressure, regaining the potential vegetation through management is extremely slow. Where remnants of the taller species remain, grazing management that includes proper stocking and scheduled rest during the growing season is quite effective in returning the site to near its potential.

7. Wildlife Considerations:

When maintained in good to excellent condition, this site provides excellent habitat for numerous bird species. The variety of grasses, forbs, and woody plants found on this site provides a large food chain in and around the site. Trees, shrubs, and tall grasses provide food and cover for deer, coyotes, raccoons, opossums, and other mammal species. Maintaining the diversity and productivity of this site is essential to sustain populations of wildlife species.

8. Other Uses and Values:

Where the threat of flooding has been reduced, much of this site is utilized as cropland. There is also limited use for pasture and hayland. Flooding limits the use of this site for housing and commercial developments.

9. Herbage Production Guidelines:

The following guidelines are based on available clipping data when this site is in excellent condition. Vigor of principal forage species, proper burning techniques, if used, as well as growing conditions, influence annual herbage production.

Growing Conditions	Total Air Dry Herbage Pounds/Acre	Kilograms/Hectare
Favorable	5,500-6,500	6,160-7,280
Normal	4,000-5,500	4,480-6,160
Unfavorable	3,000-4,000	3,360-4,480

10. Guide to Initial Stocking Rates:

Range Condition	Percent Climax Vegetation	Acres/AU Yearlong	AU Months Per Acre	Hectares/AU Yearlong	AUM's per Hectare
Excellent	76-100	7-10	1.4	3-4	3.5
Good	51-75	10-15	1.1	4-6	2.7
Fair	26-50	15-20	.7	6-8	1.7
Poor	0-25	20+	.5	8+	1.2

These guidelines are considered safe initial stocking rates from which a sound management program can be built. Grazing only during the dormant season or use of a specialized grazing program will usually allow a substantial increase in the stocking rates shown.

When maintained in good to excellent condition, an average hay yield of approximately 1.5 tons per acre can be expected from this site.

Relative Preference of Plant Species:

Preferences of plant species by classes of livestock and uses by wildlife will vary from year to year and season to season. The table below is what might be expected under average climatic conditions and good management.

Forage Preferences

H = High
M = Medium
L = Low

Wildlife Preferred Uses

C = Cover
F = Food
N = Nesting

Plant Species	Cattle	Animal Species Deer	Pheasant	Quail
baldwin ironweed	L	---	C	C
catclaw sensitivebriar	H	F	F	F
chickasaw plum	L	C,F	C,F	C,F
cottonwood	L	C,F	C	C
heath aster	H	F	---	---
Illinois bundleflower	H	F	F	F
little bluestem	H	C	C,N	C,N
maximilian sunflower	H	C,F	C,F	C,F
rosette panicums	H	F	F	F
sand bluestem	H	C	C,N	C,N
sand dropseed	M	---	C	C
sand lovegrass	H	F	C,F	C,F
sedges	M	F	F	F
sideoats grama	H	F	C	C
switchgrass	H 2/	C	C,F,N	C,F,N
western ragweed	M	F	C,F	C,F
western wheatgrass	H	F 1/	C,N	C,N

1/ Has a high preference during lush growth periods

2/ Preferred during first half of growing season.

Reference:

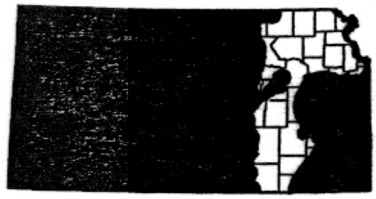
Anderson, Kling L. and Clenton E. Owensby. 1969 Common Names of a Selected List of Plants. Kansas State University Tech. Bul. 117.

SANDY LOWLAND

KANSAS RANGE SITE DESCRIPTION

1. Location of Site:

Land Resource Areas 76 and 106
Bluestem Hills and
Nebraska and Kansas Loess-Drift Hills



2. Climate:

See climate for LRA's 76 and 106
(Filed in the front of Section II-E)

3. Topography:

This site occurs on nearly level to gently sloping valley lands adjacent to rivers and creeks.

4. Soils and Hydrological Characteristics:

a. Moderately deep to deep, well drained to excessively drained soils with rapid to very rapid permeability formed in stratified moderately coarse alluvium on bottomlands. The surface layers are sandy. The water table may enter the root zone but is not the dominant factor controlling vegetative growth. Flooding or run-in provides additional moisture for higher production of vegetation than normally expected.

b. The major soil that characterizes this site is the Sarpy soil that is occasionally or frequently flooded.

c. Erosion of rangeland by wind and water is a hazard if the vegetation is severely overgrazed or mismanaged. Flooding is a hazard on this site. Severe flooding occasionally causes scour damage and deposits silt and/or sand.

5. Climax Vegetation:

a. The natural potential vegetation of this site is a tall grass prairie and dense to mostly sparse stands of bottomland timber. Sand and/or big bluestem along with little bluestem, indiangrass, switchgrass, and eastern gamagrass make up about 70 percent of the total annual yield. Trees and shrubs make up about 15 percent.

Trees and shrubs are a component of this site. Although they probably comprised a smaller percentage of the production prior to the 1900's, their occurrence has increased as man has suppressed fires.

Some areas near major streams are dominated by trees, however, large areas of treeless grasslands or grasslands with scattered trees are more typical of this site.

b. Guidelines for Determining Range Condition:

(Percentage of total production by weight)

Grasses and Grasslike - 75 Percent			Forbs - 10 Percent		Trees and Shrubs - 15 Percent	
	40	big and/or sand bluestem		catclaw sensitivebriar		American elm
				cup rosinweed		American plum
70	10	eastern gamagrass	5	Illinois bundleflower		black willow
	15	indiangrass		maximilian sunflower		boxelder
	15	little bluestem		wholeleaf rosinweed		bristly greenbriar
	15	switchgrass			15	buckbrush
				baldwin ironweed		bur oak
		Canada wildrye		Louisiana sagewort		common hackberry
		porcupinegrass	5	tall nettle		cottonwood
5		prairie sandreed		western ragweed		green ash
		rosette panicums		wild senna		mulberry
		sand lovegrass		woolly verbena		poisonivy
		sedges				roughleaf dogwood
		Virginia wildrye				
		broadleaf uniola				
		purpletop				
T		sand paspalum				
		tall dropseed				
		western wheatgrass				

c. Invaders common to this site are cocklebur, common ragweed, common sunflower, giant ragweed, Japanese brome, rag sumpweed, sandbur, and tumblegrass.

6. Management Implications:

This site appears on nearly level bottomlands adjacent to streams in the area. The density of the trees has a large influence on the amount of forage production that can be expected from this site.

Where the site has been overgrazed and fire has been suppressed, the trees tend to increase. This is especially true where the site has been abused, then protected from both fire and grazing.

Initial overgrazing of the site, with cattle, will reduce the production of the dominate tall grasses. As these taller grasses are reduced, species such as purpletop, sand paspalum, giant ragweed, tall nettle, and others invade and/or increase on the site. This situation leaves the site vulnerable to a large increase in the tree and shrub population.

Once dense stands of trees dominate the site, it is difficult, if not impossible, to return the site to herbaceous vegetation without a complete clearing operation.

Grazing management that includes proper use and scheduled rest periods, to favor the herbaceous plants, helps to improve or maintain the forage species on this site. Fire is an important tool that can be used to suppress the spread of woody vegetation on the site.

7. Wildlife Considerations:

When maintained in good to excellent condition, this site provides excellent habitat for a diverse population of wildlife. Some of the more popular wildlife found on this site are deer, turkey, raccoons, opossums, and a large variety of birds.

This site serves as a wildlife travel lane along major streams and other large bodies of water. Continuity of woody cover is important for this function.

When portions of this site are allowed to develop thick stands of trees, the diversity and numbers of wildlife are reduced. Maintaining the diversity and productivity of all types of vegetation on this site is essential to sustain optimum populations of wildlife.

8. Other Uses and Values:

Where the threat of flooding has been reduced, much of this site is utilized as cropland. There is also limited use of this site for wood products, pasture, and hayland. Flooding and a potential wind erosion hazard limits the use of the site for housing and commercial developments.

9. Herbage Production Guidelines:

The following guidelines are based on available clipping data when this site is in excellent condition. Vigor of principal forage species, proper burning techniques, if used, as well as growing conditions, influence annual herbage production.

Growing Conditions	Total Air Dry Herbage Pounds/Acre	Total Air Dry Herbage Kilograms/Hectare
Favorable	6,500-7,500	7,280-8,400
Normal	5,500-6,500	6,160-7,280
Unfavorable	4,000-5,500	4,480-6,160

10. Guide to Initial Stocking Rates:

Range Condition	Percent Climax Vegetation	Acres/AU Yearlong	AU Months Per Acre	Hectares/AU Yearlong	AUM's per Hectare
Excellent	76-100	5-7	2.0	2-3	5.0
Good	51-75	7-10	1.5	3-4	3.7
Fair	26-50	10-18	1.0	4-7	2.5
Poor	0-25	18+	.5	7+	1.25

These guidelines are considered safe initial stocking rates from which a sound management program can be built. Grazing only during the dormant season or use of a specialized grazing program will usually allow a substantial increase in the stocking rates shown.

When maintained in good to excellent condition, an average hay yield of 1.5 to 2.0 tons per acre can be expected from this site.

11. Relative Preference of Plant Species:

Preferences of plant species by classes of livestock and uses by wildlife will vary from year to year and season to season. The table below is what might be expected under average climatic conditions and good management.

Forage Preferences

H = High
M = Medium
L = Low

Wildlife Preferred Uses

C = Cover
F = Food
N = Nesting

Plant Species	Animal Species			
	Cattle	Deer	Turkey	Quail
baldwin ironweed	L	---	---	---
big or sand bluestem	H	C	C,N	C,N
bristly greenbriar	M	F	F	---
buckbrush	L	F	C,F	C,F
common hackberry	L	C,F	C,F	C,F
cup rosinweed	H	F	C,F	C,F
eastern gamagrass	H	C,F	C,F,N	C,F,N
Illinois bundleflower	H	F	F	F
indiangrass	H	C	C,N	C,N
little bluestem	H	---	C,N	C,N
maximilian sunflower	H	F	F	F
rosette panicums	H	F	F	F
sedges	M	F	F	F
switchgrass	H 1/	C	C,F,N	C,F,N
Virginia wildrye	H	F	F	C
western ragweed	M	---	F	F
wholeleaf rosinweed	H	F	F	F
wild senna	L	F	F	F

1/ Preferred during first half of growing season

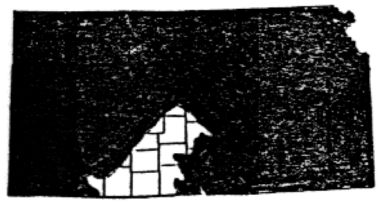
Reference:

Anderson, Kling L. and Clenton E. Owensby. 1969 Common Names of a Selected List of Plants. Kansas State University Tech. Bul. 117.

SANDY LOWLAND

KANSAS RANGE SITE DESCRIPTION

1. Location of Site:



Land Resource Areas 78 and 79
Central Rolling Red Plains and
Great Bend Sand Plains

2. Climate:

See climate for LRA's 78 and 79
(Filed in the front of Section II-E)

3. Topography:

This site occurs on nearly level alluvial lands adjacent to the rivers, creeks, and smaller streams that are subject to occasional or frequent flooding.

4. Soils and Hydrological Characteristics:

a. This site consists of deep, well drained to excessively well drained soils formed in stratified moderately coarse alluvium on bottomlands. The surface layers are loamy or sandy. The water table may enter the root zone but is not the dominant factor controlling vegetative growth.

b. The major soils that characterize this site are:

Lincoln	Yahola 1/

1/ Clark and Barber Counties

Al soils on this site are occasionally or frequently flooded.

c. Erosion of rangelands by wind and water is a hazard if the vegetation is severely overgrazed or mismanaged. Flooding is a hazard on this site. Severe flooding rarely occurs but can cause scour damage and deposits of silt and/or sand.

5. Climax Vegetation:

a. The natural potential vegetation of this site is a mixed grass prairie. Sand bluestem, little bluestem, indiangrass, and switchgrass are the dominant forage producers in this condition. Combined they will make up about 60 percent of the total annual yield.

Although trees are not native to this site, plains cottonwood and sandbar willow have invaded the site as man has suppressed fires. The trees are now well established and appear to be a part of the potential vegetation of this site.

In its development, the vegetation on this site was influenced by grazing and wildfires. The grazing was predominantly by large transient herds of bison and lesser numbers of antelope, elk, and deer.

As European families settled this area, cattle replaced the wildlife and fires were suppressed. Trees were planted. This site then became a favored livestock wintering area due to protection provided by the trees.

b. Guidelines for Determining Range Condition:

(Percentage of total production by weight)

Grasses and Grasslike - 85 Percent			Forbs - 10 Percent		Trees, Shrubs, and Cacti - 5 Percen	
60	15	little bluestem	5	catclaw sensitivebriar	5	American elm
	10	indiangrass		engelmanndaisy		chickasaw plum
	30	sand bluestem		heath aster		hackberry
	25	switchgrass		Illinois bundleflower		plains cottonwood
10		big or prairie sandreed		lemon scurfpea		sand sagebrush
		Canada wildrye		maximilian sunflower		small soapweed
		sand lovegrass		silktop dalea		willow spp.
		sideoats grama		slimflower scurfpea		
5		purpletop	5	Louisiana sagewort		
		vinemesquite		prairie sunflower		
		western wheatgrass		Texas croton		
5		blue grama		western ragweed		
		sand dropseed				
		tall dropseed				
5		perennial threeawns				
		sand paspalum				
		scribner panicum				
		sedges				
		Texas bluegrass				

c. Invaders common to this site are cocklebur, common sunflower, Japanese brome, kochia, russianthistle, sandbur, tumblegrass, and windmillgrass.

6. Management Implications:

This site is seldom found in extensive areas but rather in isolated pockets or in long stretches along major streams. It is often difficult to fence so that it can be managed by itself. When fenced with other sites, it is often overused by cattle, especially when seeking shade.

Initial overgrazing of this site will reduce the production of sand bluestem, indiangrass, and switchgrass while western wheatgrass will increase. To a small extent, blue grama will also increase.

After the vegetation is reduced to western wheatgrass and if overgrazing continues, kochia, Russianthistle, and other undesirable annuals will invade the area.

Once most of the taller species are eliminated from the site through grazing pressure which compounds the effects of drought, regaining the potential vegetation through management is extremely slow and may take several decades. Where remnants of the taller species remain, grazing management that includes proper stocking and scheduled rest during the growing season is quite effective in returning the site to near its potential.

7 Wildlife Considerations:

When maintained in good to excellent condition, this site provides excellent habitat for many species of wildlife. The variety of grasses, forbs, and woody vegetation found on this site provides a large food chain in and around the site. This combination of vegetation provides food and cover for deer, coyotes, raccoons, opossums, and other mammal species. Maintaining the diversity and productivity of this site is essential to sustain populations of wildlife species.

8. Other Uses and Values:

Other uses of this site are very limited because of flooding and the instability of the soils.

9. Herbage Production Guidelines:

The following guidelines are based on available clipping data when this site is in excellent condition. Vigor of principal forage species, time of burning, if fire is used, as well as growing conditions influence annual herbage production.

	Total Air Dry Herbage	
Growing Conditions	Pounds/Acre	Kilograms/Hectare
Favorable	4,000-5,000	4,480-5,600
Normal	3,000-4,000	3,360-4,480
Unfavorable	2,000-3,000	2,240-3,360

10. Guide to Initial Stocking Rates:

Range Condition	Percent Climax Vegetation	Acres/AU Yearlong	AU Months Per Acre	Hectares/AU Yearlong	AUM's per Hectare
Excellent	76-100	10-14	1.0	4-5	2.5
Good	51-75	14-18	.8	5-7	2.0
Fair	26-50	18-25	.6	7-10	1.5
Poor	0-25	25+	.4	10+	1.0

These guidelines are considered safe initial stocking rates from which a sound management program can be built. Grazing only during the dormant season or use of a specialized grazing program will usually allow a substantial increase in the stocking rates shown.

This site is not normally used for hay production

11. Relative Preference of Plant Species:

Preferences of plant species by classes of livestock and uses by wildlife will vary from year to year and season to season. The table below is what might be expected under average climatic conditions and good management.

Forage Preferences

H = High
M = Medium
L = Low

Wildlife Preferred Uses

C = Cover
F = Food
N = Nesting

Plant Species	Animal Species			
	Cattle	Deer	Pheasant	Quail
big sandreed	M	C	C	C
blue grama	M	F	---	---
catclaw sensitivebriar	H	F	F	F
chickasaw plum	L	C,F	C,F	C,F
engelmanndaisy	H	F	F	F
heath aster	H	F	---	---
Illinois bundleflower	H	F	F	F
little bluestem	H	C	C,N	C,N
maximilian sunflower	H	C,F	C,F	C,F
sand bluestem	H	C	C,N	C,N
sand dropseed	M	---	C	C
sand lovegrass	H	---	C,N	C,N
sand sagebrush	L	C,F	C,F,N	C,F,N
sideoats grama	H	---	C	C
switchgrass	H 1/	C	C,F,N	C,F,N
Texas croton	L	---	F	F
western ragweed	M	F	C,F	C,F
western wheatgrass	H	F	C,N	C,N

1/ Preferred during first half of growing season

Reference:

Anderson, Kling L. and Clenton E. Owensby. 1969 Common Names of a Selected List of Plants. Kansas State University Tech. Bul. 117.